CERCLIS No.: LAD985170711

REMOVAL SUPPORT REPORT
FOR
WESTBANK ASBESTOS
Jefferson, Orleans, and Plaquemines Parish, Louisiana

January 15, 2001

Prepared for:

Henry Thompson, Jr.
Project Officer
Program Management Branch
EPA - Region 6

Contract Number: 68-W6-0013

ecology and environment, inc.
International Specialists in the Environment
11550 NEWCASTLE AVENUE,BATON ROUGE,LOUISIANA 70816,TEL.(225)298-5080,FAX.(225)298-5081

ecology and environment, inc.
International Specialists in the Environment
11550 NEWCASTLE AVENUE, BATON ROUGE, LOUISIANA 70816
TEL: (225)298-5080, FAX: (225)298-5081

CERCLIS No.: LAD985170711

DATE: January 15, 2001

TO: John Martin, TM
EPA Region 6, Response and Prevention Branch

THRU: Henry Thompson, Jr., PO
EPA Region 6, Program Management Branch

THRU: Christopher L. Quina, START Leader
Region 6, Superfund Technical Assessment and Response Team

FROM: Jeffery L. Wright
Region 6, Superfund Technical Assessment and Response Team

SUBJ: Removal Support: Westbank Asbestos
Jefferson, Orleans, and Plaquemines Parishes, Louisiana
TDD No.: S06-96-09-006
PAN: 020601RAXX
CERCLIS No.: LAD985170711
LAT 29° 53' 58" N, LONG 90° 06' 45" W

The Westbank Asbestos (WBA) site is located on the Westbank of the Mississippi River near the city of New Orleans, Louisiana. The area includes: the Jefferson Parish communities of Bridge City, Gretna, Harvey, Marrero, and Westwego; the Orleans Parish community of Algiers; and the Plaquemines Parish community of Belle Chase. The source of the asbestos contamination was a former Johns-Mansville plant that operated in Marrero near the intersection of Pine Street and 4th Street. The geographic coordinates of this intersection is at Latitude 29° 53' 58" North and Longitude 90° 06' 45" West as scaled from the United States Geological Survey (USGS) Jennings Quadrangle, 7.5-minute series topographic map. The map scale is 1:24,000 and is projected from the North American Datum of 1927 (NAD-27).

On July 26, 1996, the EPA Region 6 Response and Prevention Branch (RPB) tasked the Superfund Technical Assessment and Response Team (START) contractor to conduct removal support activities at the WBA site under Technical Direction Document (TDD) No. S06-96-09-006. These activities were conducted concurrent with the removal assessment tasked under TDD

No. S06-96-07-012. For efficiency in reporting and under the direction of the EPA, all activities conducted in support of the assessment as well as the removal action have been compiled under a single report. This document represents that report. All site records are also compiled into a single site file which has been provided to EPA under separate cover.

TABLE OF CONTENTS

Table of Contents (Cont.)

ATTACHMENTS

General Attachments

Added Newspaper Clippings

A. Site Location Map
B. Photographic Documentation (170 pages)
C. Example Site File Documentation Forms (8 pages)
D. Database Inputs (3 pages)
E. Copy of the Sampling QA/QC Work Plan for the Westbank Asbestos Site (347 pages)
F. Copy of Analytical Procurement Documentation with EMSL Analytical, Inc.(182 pages)
G. Copy of Analytical Procurement Documentation with Reservior Environmental Services, Inc.(46 pages)
H. POLREP Nos.1-10 (28 pages)
I. SITREPs 9-87 (147 pages)
J. FRCTR List and Disk Copy of FRCTR List (disk in EPA file only) (15 pages)
K. Disk Copy of Removal Report
L. Removal Assessment Project Logbooks and Photo Logbook: Logbook No. 1 Pages (1-48); Logbook No. 2 Pages (1-38); Logbook No. 3 Pages (1-27); Logbook No. 4 Pages (1-20); Logbook No. 5 Pages (1-48); Logbook No. 6 Pages (1-12); Logbook No. 7 Pages (1-41); Logbook No. 8 Pages (1-48); Logbook No. 9 Pages (1-48); Logbook No. 10 Pages (1-45); Logbook No. 11 Pages (1-48); Logbook No. 12 Pages (1-48); Logbook No. 13 Pages (1-48); Logbook No. 14 Pages (1-48); Logbook No. 15 Pages (1-48); Logbook No. 16 Pages (1-48); Logbook No. 17 Pages (1-48); Logbook No. 18 Pages (1-48); Logbook No. 19 Pages (1-48); Logbook No. 20 Pages (1-48); Logbook No. 21 Pages (1-48); Logbook No. 22 Pages (1-48); Logbook No. 23 Pages (1-48); Logbook No. 24 Pages (1-48); Logbook No. 25 Pages (1-48); Logbook No. 26 Pages (1-48); Logbook No. 27 Pages (1-48); Logbook No. 28 Pages (1-48); Logbook No. 29 Pages (1-48); Logbook No. 30 Pages (1-23); Photo Logbook No. 1 Pages (1-24)
M. Removal Support Project Logbooks: Logbook No. 1 Pages (1-48); Logbook No. 2 Pages (1-48); Logbook No. 3 Pages (1-48); Logbook No. 4 Pages (1-48); Logbook No. 5 Pages (1-48); Logbook No. 6 Pages (1-48); Logbook No. 7 Pages (1-48); Logbook No. 8 Pages (1-48); Logbook No. 9 Pages (1-48); Logbook No. 10 Pages (1-48); Logbook No. 11 Pages (1-48); Logbook No. 12 Pages (1-48); Logbook No. 12 Pages (1-48); Logbook No. 13 Pages (1-48); Logbook No. 14 Pages (1-48); Logbook No. 15 Pages (1-48); Logbook No. 16 Pages (1-48); Logbook No. 17 Pages (1-48); Logbook No. 18 Pages (1-48); Logbook No. 19 Pages (1-48); Logbook No. 20 Pages (1-48); Logbook No. 21 Pages

(Lost); Logbook No. 22 Pages (1-48); Logbook No. 23 Pages (1-48); Logbook No. 24 Pages (1-48); Logbook No. 25 Pages (1-48); Logbook No. 26 Pages (1-11)

N. Logbook No. 1 Pages (1-48); Logbook No. 2 Pages (1-48); Logbook No. 3 Pages (1-48); Logbook No. 4 Pages (1-48); Logbook No. 5 Pages (1-48); Logbook No. 6 Pages (1-33)

O. Logbook No. 1 Pages (1-48); Logbook No. 2 Pages (1-48); Logbook No. 3 Pages (1-48); Logbook No. 4 Pages (1-48); Logbook No. 5 Pages (1-48); Logbook No. 6 Pages (1-48); Logbook No. 7 Pages (1-48); Logbook No. 8 Pages (1-48); Logbook No. 9 Pages (1-48); Logbook No. 10 Pages (1-35)

P. Copy of TDD No. S06-96-07-0012, and Amendments A, B, C, D, E, F, G, H, I, J, K, L, M, N, and O (18 pages)

Q. Copy of TDD No. S06-96-09-0006, and Amendments A, B, C, D, E, F, G, H, I, J, K, L, M, N, and O (18 pages)

Confidential Attachments

R. List of Sites Addressed During the Project (48 pages)

S. List of Unresolved Sites

T. List of Under House Survey Sites (3 pages)

U. Air Sampling Result Summary Sheets (22 pages)

V. Soil Sampling Result Summary Sheets (97 pages)

W. Disk copy of Westbank Asbestos Database

X. Westbank Asbestos Abatement Final Report, Vol. I of V, Prepared by IT Corporation on January 1999 (145 pages)

Provided to EPA Under Separate Cover

EPA Site Files (18 boxes); see FRCTR List for contents (Per EPA instructions, all site file documentation was submitted to EPA; none were retained by the START contractor)

EXECUTIVE SUMMARY

To be completed by the EPA OSC.

This page was intentionally left blank.

1.0 INTRODUCTION

This Removal Support Report has been prepared by Ecology and Environment, Inc. (E & E), the Superfund Technical Assessment and Response Team (START) contractor, for the EPA Region 6 Response and Prevention Branch (RPB) and provides a summary of the activities completed at the Westbank Asbestos (WBA) assessment and removal projects located in Jefferson, Orleans, and Plaquemines Parishes, Louisiana. START work was performed under Contract No. 68-W6-0013 and Technical Direction Document (TDD) nos. S06-96-07-0012 and S06-96-09-0006 from August 15, 1996 through December 28, 1999.

Some of the information contained within this report was obtained from the U.S. Army Corps of Engineers (USACE), Omaha District, removal contractor International Technologies Corporation (IT). Site work performed by IT was authorized under USACE Rapid Response Contract No. DACW45-94-D-0054, Delivery Order No. 29. IT activities were conducted from July 11, 1996 through December 28, 1999.

Sections 2 through 9 of this report provide an overview of all project activities. Due to the large number of sites addressed during the WBA project, and the existence of individual site files, individual site information is not addressed in this report. Some individual site information is contained within the confidential attachments, and the complete site records (including both START and Rapid Response contractor data) were compiled into the EPA site files which were submitted to EPA under separate cover.

This page was intentionally left blank.

2.0 BACKGROUND

The WBA site is located in the Westbank area of New Orleans, Louisiana, and consists of the following areas: the Jefferson Parish communities of Bridge City, Gretna, Harvey, Marrero, and Westwego; the Orleans Parish community of Algiers; and the Plaquemine Parish community of Belle Chase. Asbestos-containing material (ACM) had been found in residential yards and other high access areas such as schools and day care facilities. The ACM was found primarily in driveways, walkways, right-of-ways, and playgrounds.

The source of the ACM was determined to be the Johns-Manville plant that operated in Marrero, Louisiana, from 1929 to 1975. The facility produced various types of asbestos-containing products including: asphalt roofing tile, several varieties of transite materials, and other ACM products. An asbestos-containing waste aggregate was generated as a by-product during manufacturing operations. It was reported that the aggregate was pulverized in a hammer mill and mixed with a filler to form a stable roadbed-like material. The asbestos-containing aggregate was then offered to local residents for construction of driveways, servitudes, walkway, and other areas. Consequently, many of these areas in the residential communities surrounding the Johns-Manville plant contained ACM waste. No records are available detailing the quantity and exact time period in which the asbestos-containing aggregate material was distributed to the public.

This page was intentionally left blank.

3.0 REMOVAL ACTION'S PRIMARY GOAL

To be completed by the EPA OSC.

This page was intentionally left blank.

4.0 AGENCIES INVOLVED, ROLES, AND RESPONSIBILITIES

Several federal, state and local agencies cooperated in the investigation and remediation of ACM-contaminated sites. The following table lists all the agencies involved, their responsibilities, and contact personnel.

Agency	Contact	Telephone No.
U.S. Environmental Protection Agency Response and Prevention Branch 1445 Ross Avenue Dallas, TX 75202	TM/OSC John Martin OSC Tracy Windhiem OSC Stacey Bennett	(214) 665-6748
U.S. Army Corps of Engineers-Omaha District Building 525, Castle Hall Offutt AFB, NE 68113	Jude Hobza Project Engineer Denzie White On-site Representative	(402) 293-2533
Louisiana Department of Environmental Quality 3501 Chateau Blvd. Suite W1, West Wing Kenner, LA 70065	John Sharp	
Contractor	**Contact**	**Telephone No.**
Ecology and Environment, Inc. EPA START Contractor 11550 Newcastle Ave., STE 250 Baton Rouge, LA 70816	Jeff Wright Project Manager	(225) 298-5080
IT Corporation USACE Rapid Response Contractor 2790 Mosside Blvd. Monroeville, PA 15146	Tom Mathison Project Manager Roger Clifford Site Supervisor	(412)858-3303

4.1 EPA REGION 6

The EPA Region 6 RPB was in charge of overall project administration, assessment, removal, and restoration activities conducted at the WBA site. The EPA RPB was represented by On-Scene Coordinator (OSC) and the Task Monitor (TM) for this START project, John Martin. EPA OSC Tracy Windheim assisted OSC Martin with public relations during the summer and fall of 1997. Other EPA OSCs also provided periodic relief for EPA OSC Martin.

On July 26, 1996, the EPA Region 6 RPB tasked the START contractor to conduct site assessment activities at the WBA site under TDD No. S06-96-07-0012. Specific elements of the TDD included: provide site assessment support; contact site owners to arrange for site access; photodocument site conditions; maintain site logbook and document site conditions; maintain effective site communications; and provide technical support activities including support with preparation of the community relations plan, graphics support with public meetings, and assistance with distribution of site information sheets.

On August 9, 1996, the EPA Region 6 RPB tasked the START contractor to conduct removal support activities and the WBA site under TDD No. S06-96-09-0006. Specific elements of the TDD included to: provide removal funded technical support; coordinate all activities with EPA OSC; conduct monitoring of field activities; maintain site logbook; provide photodocumentation of site activities; maintain site files; provide draft polreps; prepare a Sampling Quality Assurance/Quality Control (QA/QC) Work Plan; procure analytical services for air monitoring samples and confirmation soil samples; and provide a comprehensive report (removal assessment and removal support combined). Removal support activities were conducted in concurrence with on-going assessment activities at the WBA site.

Per EPA tasking, all removal assessment activities are described within this Removal Support Report. In addition, all removal assessment logbooks, photographs, and other applicable documentation were also submitted under this TDD (No. S06-9609-0006).

4.1.1 START Contractor

The EPA Region 6 START contractor, E & E, provided technical support to the EPA OSC throughout the duration of this project. START personnel included a project manager (Troy Naquin from July 26, 1996 through May 29, 1997 and Jeffrey Wright from May 30, 1997 through January 12, 2001, and up to an eight-person field crew. START personnel were responsible for conducting initial site assessment investigations, obtaining access agreements, completing site sketches of ACM contaminated areas, collecting ambient air samples, collecting confirmation soil samples, completing post-removal/notice to proceed sketches, maintaining site logbooks and site files, conducting photographic documentation, providing weekly draft Pollution Reports (POLREPs)/Situation Reports (SITREPs) to the EPA OSC, and maintaining a

site computer database.

4.1.2 ERRS Contractor

To be completed by the EPA OSC.

4.1.3 ATSDR

To be completed by the EPA OSC.

4.2 USACE

To be completed by the EPA OSC..

4.3 STATE AND LOCAL AUTHORITIES

To be completed by the EPA OSC.

This page was intentionally left blank.

5.0 REMOVAL SUMMARY

This section presents a chronology of major activities including: previous investigations, action memorandum and headquarters concurrence, statement of work and contracting, removal phases, mobilization/demobilization, and numbers and volumes.

5.1 PREVIOUS INVESTIGATIONS

Based on available information, the following previous investigations are known to have been completed for the WBA site:

- A sampling visit was performed at the site by the Louisiana Department of Environmental Quality (LDEQ) on January 12, 1990. The sampling visit consisted of collecting on air sample using a high-volume air sampler and ten bulk samples of suspected ACM. Analysis of the air sample indicated the presence of 0.000003 fibers per cubic centimeter (f/cc). Analysis of the bulk samples revealed the presence of up to 60 % asbestos (chrysotile and crocidolite).

- Drive-by inspections were performed at the site and in nearby communities (including Gretna and Westwego, Louisiana) by the EPA Technical Assistance Team (TAT) on February 8 and 28, 1990. The TAT also conducted additional drive-by inspections from March 7 through 9, 1990. The TAT conducted air sampling of three randomly selected residential locations on March 7, 8, and 9, 1990. A total of 11 air samples were collected and analyzed for asbestos fibers using phase contrast microscopy (PCM). In addition, three of the samples were also analyzed for asbestos using transmission electron microscopy (TEM) techniques. Analytical results indicated that all air samples were below the detection limit of 0.001 f/cc. The TAT submitted a formal report (TDD No. T06-9010-54) detailing all site assessment activities to the EPA Region 6 RPB on September 21, 1991.

- A Preliminary Assessment (PA) was completed by the EPA Alternative Remedial Contract Services (ARCS) contractor, M-K Environmental and ICF Technology, Inc., on October 16, 1992. The purpose of the PA was to determine if further investigations were warranted and to provide a preliminary screening of the site to facilitate EPA's assignment of site priorities. The PA report stated that the air and

soil were pathways of concern based on the disposition of ACM at the site in relation to the on-site residents. PA field activities identified 117 residences with suspected ACM contamination; however, a full extent of contamination survey was not conducted. The PA report recommended that a Site Inspection (SI) with a PREScore was needed to determine if the site was a potential candidate for the National Priorities List (NPL). Information relating to the PA can be found in the report submitted to the EPA under Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) No. LAD985170711.

- An SI was completed by EPA contractor Roy F. Weston, Inc., on March 3, 1995. The SI report stated that the groundwater and surface water pathways were not pathways of concern. The report also stated that the analytical results of the air samples indicated asbestos fibers were present, but at concentrations below the Occupational Safety and Health Administration (OSHA) action level of 0.1 f/cc. Due to these conclusions, the site did not qualify as a potential candidate for inclusion on the NPL of Superfund sites. A decision of No Further Action Planned (NFAP) was recommended.

- In November 1995, LDEQ conducted an inspection of the WBA site and observed that conditions had deteriorated. The ACM appeared to be more friable and had asbestos fibers outcropping from the material. At that time, LDEQ requested additional assistance from the EPA re-evaluate the WBA site. Based on this request, the EPA RPB tasked the START contractor to conduct removal assessment activities at the WBA site.

- From February 7 through March 1, 1996, START members Naquin and Greg Day, EPA OSC Martin, and LDEQ representatives Debra Bendily and John Sharp, conducted Phase I removal assessment activities. Phase I activities included conducting a visual extent of ACM contamination survey and estimating the ACM waste volume at each location. START and LDEQ members preformed a systematic ACM survey of the Westbank area by conducting drive-by inspections of all targeted streets. Areas that were constructed after 1965 were avoided since the ACM was reportedly not distributed to the public after that year. The completed ACM survey identified 603 suspected locations, including three schools and three daycare centers, in Jefferson Parish.

  On March 12, 1996, a list of all surveyed residential and commercial locations was sent to the Jefferson Parish Tax Assessor's Office (JPTAO) for identification of property owners and current mailing addresses. Once received, START members added this information to a computer database management system.

On March 29, 1996, START members Day, John Mueller, and Will Farrar mobilized to the WBA site to conduct in situ density tests. Density tests were conducted at three locations in Marrero, Louisiana. Based on these tests, it was estimated that the average density of the ACM waste was 1.35 cubic yards per ton (yd^3/ton). START also identified two additional ACM locations bringing the total to 605 locations.

On April 4, 1996, START members Naquin and Maxine LaPierre presented information on the WBA site to the Region 6 EPA RPB and the Agency for Toxic Substances and Disease Registry (ASTDR) at a meeting in Dallas, Texas. START briefed EPA and ASTDR on the site history, previous investigations, and actions taken to date. START also presented a slide show that illustrated the many uses of the ACM by the residences and a visual account of current site conditions.

From April 15 through 18, 1996, START Naquin and LDEQ representatives Bendily and Sharp collected 60 bulk samples and 30 soil samples from suspect ACM locations to characterize the presence of asbestos fibers. The bulk samples were analyzed for asbestos by polarized light microscopy (PLM), and the 30 soil samples were analyzed for asbestos by TEM. Targeted areas for asbestos sampling included: locations around schools and daycare centers; high access areas such as servitudes and play areas; visibly friable ACM areas; and areas that had defined drainage pathways. The bulk samples consisted of the two suspect materials which included a black, asphalt-like material and light bluish-grey, cementitious material. The analytical results revealed the presence of asbestos fibers in all of the soil samples and in the light bluish-grey, cementitious material; however, no asbestos fibers were detected in the black, asphalt-like material. Laboratory results of the bulk samples indicated that the average percent asbestos was 32.2 % chrysotile, 9.1 % crocidolite, and 1.6 % amosite. Soil sample results indicated that the average percent asbestos was 26.6 % chrysotile and 25.2 % amphiboles.

On April 24, 1996, START Naquin and LDEQ Sharp conducted a survey for ACM at schools in the Westbank area. START and LDEQ visited most of the pre-1965 constructed public and private schools. ACM was identified at the Immaculate High School in Marrero, Saint Joseph the Worker School in Marrero, and Saint Joseph's Church, a former Catholic parochial school, in Gretna. LDEQ Sharp collected bulk samples at each location for asbestos analysis by PLM at the LDEQ asbestos laboratory in Baton Rouge, Louisiana. Analytical results confirmed the presence of chrysotile and crocidolite asbestos fibers.

On May 2, 1996, START Naquin met with EPA officials at the WBA site to tour several representative ACM locations. After the site visit, START and EPA representatives attended a meeting with LDEQ officials in Baton Rouge, Louisiana, to discuss site assessment sample results and future actions at the WBA site.

On June 20, 1996, START, EPA, the USACE, and IT representatives met to tour the site and plan strategies for the proposed removal action. Several sites, including the former Johns-Manville plant, were visited as well as potential command post locations. Following contracting officer approval and the request of the EPA OSC, START compiled all current technical data for the USACE to aid in development of the removal action plan.

The START contractor submitted a formal report (TDD No. S06-9601-033) detailing all site assessment activities to the EPA Region 6 RPB on July 30, 1996.

5.2 ACTION MEMORANDUM AND HEADQUARTERS CONCURRENCE

To be completed by the EPA OSC.

5.3 STATEMENT OF WORK AND CONTRACTING

To be completed by the EPA OSC.

5.4 REMOVAL PHASES

Prior to beginning on-site removal activities, initial notification and documentation was required. This step of the project was performed by the START contractor. START was required to: identify potential sites; obtain consent for access to the properties; and provide field data sheets and site sketchs depicting the location and depth of ACM along with other site features. After these documents were forwarded to the IT site supervisor, the site was scheduled for removal excavation. Removal activities were divided into five primary phases. The phases included: Phase I - Pre-Excavation Documentation; Phase II - Removal Excavation; Phase III - Post-Excavation Documentation and Environmental Sampling; Phase IV - Site Restoration; and Phase V - Post-Restoration Documentation.

5.4.1 Phase I - Pre-Excavation Documentation

Phase I consisted of video documentation of existing site conditions. IT and the START contractor participated in these activities. Usually, a one person crew would use a VHS video

camera to accurately document areas of proposed excavation and the pre-site work condition of adjacent structures on site (8-mm tapes were also used).

5.4.2 Phase II - Removal Excavation

Phase II consisted of the excavation and removal of ACM from an identified site. The removal crew consisted of a LDEQ-qualified supervisor, an equipment operator, and three to six field technicians depending on the size of the site. The ACM was generally removed using a combination of backhoes, picks, shovels, jackhammers, wheel barrows and small hand tools. The material was removed and placed in the backhoe bucket for placement into a disposal transportation truck.

5.4.3 Phase III - Post-Excavation Documentation and Environmental Sampling

Phase III consisted of video documentation of post-excavation site conditions. A one person crew would use a VHS video camera to accurately document areas of excavation and the condition of any structures on site after removal excavation activities were completed. Also during this phase, a two to three person START crew collected post-excavation confirmation cleanup soil samples. Excavation areas were divided into grids and a composite sample was collected. START also completed a notice to proceed sketch which included: sample grid dimensions; site location; and sample depth. When satisfactory results were obtained, the notice to proceed was forwarded to the IT site supervisor providing authorization to proceed with restoration activities.

5.4.4 Phase IV - Site Restoration

Phase IV consisted of site restoration activities. A two- to three-person crew restored the property according to the agreement made with the homeowner prior to the beginning of removal activities. Excavated areas were restored with either concrete, limestone, or sod and soil. At several of the larger sites and vacant lots where ACM was removed, the excavation area was restored with soil and then hydroseed was applied in lieu of sod.

5.4.5 Phase V - Post-Restoration Documentation

Phase V consisted of video documentation of post-restoration site conditions. Both IT and the START contractor participated in these activities. A one-person crew would use a VHS video camera to accurately document restoration areas and the condition of any structures on site.

5.5 MOBILIZATION/DEMOBILIZATION

Crews mobilized to the project site on September 30, 1996 to prepare for removal activities. From October 1996 until July 1998, ACM excavation activities were completed at 1,345 properties. At the end of July 1998, site crews were demobilized pending resolution of the remaining sites. The remaining sites were those without signed access agreements or newly identified sites. Crews returned to the project site on November 9, 1998, after re-approaching all the residential property owners that had not signed consent for access agreements. During this portion of the removal, 26 properties were excavated and restored. Site excavation work was completed on December 12, 1998, and restoration activities continued for another week at which time demobilization activities began.

On December 7, 1999, site crews returned to the WBA site to complete removal activities on the remaining properties in which access agreements were obtained. All the residential properties identified with ACM but without signed access agreements were re-approached to gain consent for access agreements. During this final portion of removal activities, six sites were excavated and restored. All removal activities were completed on December 28, 1999, at which time final demobilization activities began.

5.6 NUMBERS AND VOLUMES

The original estimate identified approximately 613 locations of ACM, including three schools and three day care centers. After removal activities began, 1,419 additional sites were investigated, of which 752 sites were identified as containing ACM. Out of the 2,033 properties investigated for visible surface ACM (SACM), a total of 1,393 properties were identified to have SACM. A total of 1,365 properties were excavated and restored during this removal project with approximately 52,210 cubic yards of ACM and contaminated soil being excavated and properly disposed at the Jefferson Parish Landfill. A list of unresolved sites and their associated comments are submitted as Attachment S.

6.0 PUBLIC INFORMATION AND COMMUNITY RELATIONS

To be completed by the EPA OSC.

7.0 START CONTRACTOR FIELD ACTIVITIES

The START contractor was responsible for conducting field reconnaissance activities which included, site evaluation, air monitoring, confirmation soil sampling, and water sampling. These topics are discussed in this section.

7.1 SITE EVALUATION

Prior to the initiation of site removal activities, the START contractor investigated potential sites throughout the Westbank area where ACM was thought to exist. The approximate horizontal and vertical extent of the ACM was recorded for each site. Three documents were completed during site evaluation activities. Those documents included: the field data sheet (FDS), the consent for access agreement, and the site sketch.

7.1.1 Field Data Sheets

In February 1996, START, EPA, and LDEQ representatives began conducting an extensive drive-by survey of the Westbank communities of Bridge City, Westwego, Marrero, Harvey, Gretna, and Algiers. The teams drove through each community to inspect driveways and servitudes for visible ACM. For each site suspected to contain ACM, a team member would complete an FDS. The FDS was used to: record the name of the property owner and the property address; provide a general description of the property; and provide a rough sketch of the property and the location of ACM. Each site was assigned a tracking number in sequential order and entered into the site file.

Following the public outreach meetings that were held in August 1996, residents and owners began requesting inspections of their property. Tracking numbers were assigned and an FDS was completed for each property regardless of whether ACM was present or not. Once the FDS was completed it was entered into the site file and the computer database.

7.1.2 Consent for Access Agreement

For each property inspected and confirmed to contain ACM, an access agreement was obtained from the property owner. The consent for access agreement provided permission for EPA to perform all necessary tasks to remove the ACM and restore the property. Each consent for

access agreement was assigned the same tracking number as the corresponding FDS and entered into the site file and the computer database.

7.1.3 Site Sketch

After an FDS was completed and a consent for access agreement was signed, a more detailed site sketch was conducted. These site sketches were completed for all sites that contained ACM. At each site, a two- to three-person team would closely inspect the property for ACM. The inspection involved delineation of the extent of ACM, up to a depth of 6 inches. A pick axe was used to conduct the subsurface survey and the area of ACM was marked with orange spray paint. A detailed site sketch was completed which included the location of ACM and site features, such as: walkways, buildings/sturctures, trees, fences, gas meters, overhead utilities, and other items. In addition to these site features, the sketch also listed a suggested and comparable restoration material for each area of excavation. The criteria used to determine the specific type of restoration material is discussed in Section 8.5.

Once the site sketch was completed, it was forwarded to the EPA OSC for restoration approval. After restoration approval was received, the START contractor informed the property owner of the proposed restoration and requested their approval before the initiation of excavation activities. Once the approval process was completed, a copy of the site sketch was forwarded to the USACE contractor, IT. The information in the site sketch was used by the USACE contractor to schedule and conduct the appropriate removal and restoration activities.

7.1.4 Under House Survey

An under house survey was conducted at all sites that contained ACM. A one- to two-member crew was used to assess each site and provide a general description of the property. An under house survey form was completed which included: the property address and site tracking number, a sketch of the ACM area, and a brief description of the ACM. This form was added to the site file for future reference. A total of 117 properties were identified to have ACM located beneath a house or other site structure. The ACM found under a house or within a structure was not within the scope of this removal project and, therefore, not removed. A list of the under-house survey is submitted as Attachment T.

7.2 AIR MONITORING

Ambient air monitoring was conducted by the START contractor to ensure that ACM removal procedures were not resulting in the off-site migration of asbestos fibers. The results of the ambient air samples were used to monitor the engineering controls in place to eliminate the migration of asbestos fibers. A total of 496 ambient air samples were collected over the entire duration of the project, the OSHA permissible exposure limit (PEL) of 0.1 f/cc was exceeded in

only a few instances. When this did occur, engineering controls were examined and it was determined that the subcontractor did not utilized enough water for dust suppression. This deficiency was quickly corrected. A summary list of all air sampling results is submitted as Attachment U.

7.2.1 Standard Operating Procedures

START and EPA representatives established an air sampling protocol prior to the start of removal activities as detailed in the Sampling QA/QC Work Plan (Attachment E). In September 1996, background samples were collected from three sites over a period of three days. Gilian Aircon 2 high flow (Gilian) air sampling pumps were utilized, and calibrated with a Bois Dryflow Calibration Cell prior to and following each day's sampling event. Samples were collected onto 37 millimeter cellulose ester filters using the Gilian air sampling pumps running at approximately 14 to 15 liters per minute. Analytical results of the background air samples taken just prior to the implementation of the excavation activities ranged from 0.0008 to 0.0019 f/cc.

After background sampling was completed, START began collecting air samples from the perimeters of sites undergoing removal activities. Samples were collected using Gilian air sampling pumps or SKC low flow (SKC) personal air sampling pumps. The SKC personal air sampling pumps were run at approximately 1 to 2 liters per minute. Three pumps were deployed around the perimeter of a site and run as long as conditions permitted. Factors affecting sampling time included inclement weather, actual removal time, and periodic pump failures. Both the Gilian and SKC pumps were calibrated with a Bois Dryflow Calibration Cell prior to and following each day's sampling event.

The project's air monitoring program included frequent sampling during the beginning of removal activities. Once a historical base was established, air sampling became less frequent but was still conducted periodically.

7.2.2 Contractor/Supervisor Certification

The State of Louisiana requires that any person collecting air samples for asbestos analysis must attend a state-certified asbestos contractor/supervisor training course. In order to meet this requirement, START members Naquin, Madalyn Ball, Roberta Haglund, and Lawrence Roedl completed the required 40-hour course to be properly certified. Throughout the removal project, personnel changes necessitated the certification of additional personnel. To meet this need, START members Day, Koeby Johnson, Barbara Storey, and Wright completed the course. START members Day, Johnson, and Wright completed annual 8-hour re-certification courses to maintain current certification status.

7.2.3 Laboratory and Methods

EMSL Laboratories, Inc., was procured to provide analytical analysis of all air samples collected during the WBA removal project (Attachment F). All air samples were analyzed for asbestos fibers by PCM using the National Institute for Occupational Safety and Health (NIOSH) 7400 Method. Analytical results of PCM analysis indicated that sample concentrations ranged from below level of detection (<LOD) to 0.0186 f/cc. The laboratory was unable to analyze 19 samples due to heavy loading of particulates. The OSHA PEL is 0.1 f/cc based on PCM analysis.

In addition, selected air samples were also analyzed by TEM using the EPA 40 Code of Federal Regulations (CFR) Part 763 AHERA Method as a QA/QC check. TEM analysis was conducted on 31 ambient air samples. Analytical results indicated that sample concentrations ranged from <LOD to 0.0243 asbestos structures per cubic centimeter(as/cc). Refer to Attachment U for additional details.

7.3 CONFIRMATION SOIL SAMPLING

Confirmation soil samples were collected by the START contractor from each site in which removal excavation activities occurred. These sample were collected to ensure that ACM removal procedures were being followed and to document post-excavation site conditions.

7.3.1 Standard Operating Procedures

START and EPA representatives established a soil sampling protocol prior to the start of removal activities as detailed in the Sampling QA/QC Work Plan (Attachment E). After site removal activities were completed, each excavated area was divided into sample grids. Grid locations were based on functional areas and designed so as not to exceed 625 square feet (25 feet by 25 feet). Functional areas included: driveways, servitudes, yards, walkways, and patios. For example, if an excavated area included the servitude, driveway, and part of the yard, the entire area was divided into three functional areas and sampled separately. Functional areas are described in Section 8.3.1.

All soil samples were collected as 5-point composites. The samples were collected with a stainless-steel spoon or trowel and homogenized in an aluminum pie pan. The homogenized soil sample was then placed in a 4-ounce glass jar. A sample tag and chain of custody seal was affixed to each sample jar. A chain of custody form detailing the sample information was completed and included in the shipment to the selected laboratory for asbestos analysis (these documents are included within the EPA site files).

7.3.2 Asbestos Inspector Certification

The State of Louisiana requires that any person collecting bulk samples for asbestos analysis must attend a state-certified asbestos inspector training course. In order to meet this requirement, START members Naquin, Ball, Haglund, and Roedl initially completed the required 24-hour course to be properly certified. Throughout the removal project, all START personnel who conducted site assessments or collected soil confirmation soil samples attended this course. This included a total of 18 START members for the 24-hour course and 14 START members for the annual 4-hour re-certification course (needed to maintain current certification status).

7.3.3 Laboratory and Methods

EMSL Laboratories, Inc., was procured to provide analytical analysis of all soil samples collected at the WBA site (Attachment F). All soil samples were prepared for analysis according to Section 4.2 of the New York State Environmental Laboratory Approval Program (ELAP) Certification Manual (198.1), then analyzed for asbestos fibers by PLM using EPA Method 600/R-93/116. A total of 3,875 soil samples were collected during the course of this removal project. Analytical results of PLM analyses indicated that sample concentrations ranged from <LOD to 60 % chrysotile. In addition, selected soil samples were also analyzed by TEM using the EPA 600/R-93/116 - Chatfield Method. TEM analysis was conducted on 25 soil samples. Analytical results of the TEM sample indicated that sample concentrations ranged from <LOD to 50 % chrysotile (Attachment V).

7.3.4 Notice to Proceed

A notice to proceed sketch detailing excavation dimensions and sample grid locations was completed by the START contractor after each site was sampled. If all areas were excavated to maximum depth as outlined in Section 8.3.1, the sketch was forwarded to the removal contractor signifying that restoration activities could begin. If any of the areas were excavated to less than maximum depth, the sketch was retained by START until all analytical results were received and they indicated that the asbestos fiber concentrations were below the set action level of 1 %. If the analytical results indicated that asbestos fiber concentrations were above the action level but not at maximum depth for that functional area, the associated grid was scheduled for additional excavation.

It was prudent for the project that the confirmation sampling team assess the excavated area quickly after excavation was completed and while the excavation team was still on site. Since the ACM contamination was largely visible, emphases was placed upon the excavated area being "visibly clean" of small pieces of ACM prior to samples being collected, and while excavation crews were still set-up at that area.

7.4 WATER SAMPLING

A personnel decontamination trailer was set up near the command post to provide the excavation contractor with an area to remove any contaminated clothing and shower at the end of each work day. All wash water was processed through a high efficiency particulate (HEPA) filtration system, collected in a large poly-tank, and laboratory analysis received prior to discharge to the municipal water system.

7.4.1 Standard Operating Procedures

Water samples were periodically collected for the decontamination trailer wash tank. Samples were collected into two 1-liter polyethylene bottles. A sample tag and chain of custody seal was affixed to each sample bottle. A chain of custody form detailing the sample information was completed and included in the shipment to the selected laboratory for asbestos analysis (these records are included in the EPA site files).

7.4.2 Laboratory And Methods

Reservoirs Environmental Services, Inc., was procured to provide analytical analysis of all water samples collected at the WBA site (Attachment G). A total of nine water samples were collected during the course of this removal project and all were analyzed for asbestos fibers by TEM using EPA 600/R-943/134 Method 100.2. Method 100.2 protocol requires for selected area electron diffraction (SAED) confirmation of all asbestos identifications. Energy dispersive X-ray spectrometry (EDX) is also required for all amphibole structures. Analytical results indicated that sample concentrations ranged from below analytical sensitivity to 4.06 million structures per liter. The EPA water quality standard for asbestos fibers in drinking water is 7 million structures per liter.

8.0 REMOVAL FIELDWORK (USACE/IT)

To be completed by the EPA OSC

8.1 COMMAND POST AREA

The command post area (CP) for the WBA site was located behind the Harvey State Office Building at 2150 Westbank Expressway in Harvey, Louisiana. An 8-foot perimeter fence with 3-strand barbed wire was erected around the CP area. A geotextile liner was laid across approximately 90,000 square feet and covered with about 6 inches of limestone. The CP consisted of four mobile office trailers that were used by EPA/START, USACE, IT, and the removal subcontractor. Utilities were installed that included electrical, telephone, and water service. A decontamination trailer was also set up so removal subcontractors could shower at the end of the day's activities.

The CP area was divided by temporary fencing into two areas (north and south). The north area consisted of the four mobile office trailers, the decontamination trailer, and two Con-X storage boxes. One large Con-X storage box was utilized by IT and the removal subcontractors for storage of personal protection equipment (PPE) and other supplies. The START contractor utilized a small Con-X storage box for storing PPE and air sampling supplies and equipment. The south area was designated as a Level D work area and was used for staging all removal equipment including backhoes, dumptrucks, and work vehicles. Restoration supplies such as grass sod, sand, limestone, and geotextile liner were also stored in this area. A security guard attended the CP area during a non-work hours and all gates were kept locked.

8.2 REMOVAL WORK AREA

To be completed by the EPA OSC

8.2.1 Abatement Scheduling

Upon receipt of a site from the START contractor, IT prepared documentation for submission to LDEQ to obtain proper documents to permit disposal of ACM. An AAC-2 form, Notification of Demolition and Renovation Form, was prepared which listed information regarding the site, including: the owner's address, project name, contractor performing the work, waste transporter, and other site information. This form was then forwarded to the LDEQ for review and approval.

Upon approval of the AAC-2 form, the LDEQ would forward the requested number of Asbestos Disposal Verification Forms (ADVFs) to the subcontractor to be utilized as verification of the site specific disposal. The quantity of ACM material shipped, the date shipped, and transporter name was completed on the form prior to shipment of the waste. One ADVF form accompanied each truckload of material removed from every site. Any excess ADVFs ordered but not utilized were returned to the LDEQ when the project was completed.

The local utility notification service was contacted to identify all utilities on each property and the local emergency authorities were contacted to alert them of any road closures prior to the commencement removal abatement activities at a particular site. The owners/tenants of each property were notified prior to all removal abatement activities.

8.2.2 Site Video Documentation

Prior to all removal abatement activities, IT personnel or a START member video documented areas of purposed excavation and the condition of all structures on site. After removal abatement activities were completed, a one person crew video documented all areas of excavation and the condition of all structures on site. Once removal activities were completed and the excavated site areas were restored, a one-person crew video documented all restoration areas and the condition of all structures on site.

8.2.3 Site Preparation

Prior to the initiation of removal activities, each site was isolated to restrict access for everyone except the certified asbestos workers. Caution tape was placed around the general area and asbestos tape was used to delineate the exclusion zone. In areas where excavation was adjacent to walkways or other locations determined to be close to public traffic, orange construction fencing was placed to prevent access. If required, wooden walkways were placed to permit the resident access his property during the excavation and restoration phases of removal activities. Critical barriers (polyethylene sheeting) were placed over windows, attic vents, doorways, and air conditioning units that were immediately adjacent to work areas.

A temporary decontamination room was constructed at the perimeter of the exclusion zone to permit the workers a place to change their PPE. The room was constructed of steel rebar and black polyethylene sheeting. Each time a worker entered or exited the exclusion zone, he was required to pass through this area. A disposal truck loading area was designated at each site. Each area was completely lined with polyethylene sheeting to minimize cross contamination. In situations where site excavation zones were separated from the truck loading area, the entire property between the two areas was lined with polyethylene sheeting. Water hoses were connected to the nearest fire hydrant to supply water to each site for decontamination and dust suppression. A water meter was used to account for the water usage during the project.

8.2.4 Traffic Control and Security

During removal abatement activities, road barricades were set up as necessary to either close the road or to restrict vehicle access by the general public. Street signs were posted at each end of the block to indicate street closures. If required, drivers of the disposal transportation trucks would serve as flag men during removal activities.

8.2.5 Decontamination and Break Areas

During breaks, removal abatement crews were required to enter the decontamination room prior to exiting the exclusion zone. Within the room the crews would remove all PPE and then exit for a break. Breaks were typically held within the large equipment trucks which were located at each site. After the breaks were completed, workers would re-enter the decontamination room, don clean PPE, then enter the exclusion zone. Removal abatement worker would take decontamination showers at the CP at the end of each work day.

8.3 ACM REMOVAL/ABATEMENT

The ACM was removed using a combination of backhoes, pick-axes, shovels, rakes, wheel barrows, and jack hammers. Each removal abatement crew consisted of a LDEQ-qualified supervisor, an equipment operator, and three to six field technicians depending on the size of the site. The ACM was removed and placed in the backhoe bucket for placement into the disposal transportation truck. At some of the larger sites, an excavator was used to remove the ACM. On large confined areas, a small bobcat excavator was used.

During removal excavation activities, extreme care was taken to avoid damaging any existing utilities, pipelines, landscaping, or any structure which was nearby. In most cases, where any structures existed (such as fences and trees), the ACM was removed from around the structure without affecting the status of the structure. In the instances where a water line or gas line was damaged, appropriate personnel were contacted to repair the damage as soon as possible.

8.3.1 Methodology of ACM Removal

The depth of the ACM was determined to be approximately 4 inches during the site assessment phase. Removal excavation volumes were calculated utilizing an estimated depth of 6 inches below ground surface (BGS). As the project's excavation phase began, it became quickly apparent that the ACM thickness varied greatly between each site (often times being layered). In many cases, the ACM extended both vertically and horizontally beyond the what the site sketches had determined. The maximum depth of excavation was set at 2 feet per the EPA Action Memorandum. An Action Memorandum Addendum was approved requesting additional funding and changing the maximum depth of excavation from 2 feet to 1 foot.

The EPA OSC decided that the depth of excavation would be based on the anticipated future use of a specific area (functional areas) at the site correlating to the restoration planned for that area. In yard areas where sod and soil was scheduled as the restoration material, the maximum depth of excavation was set at 1 foot. In driveways, walkways, and other areas which were scheduled to receive concrete or limestone restoration, the depth of excavation was set at 6 inches. Servitude areas which contained ACM were excavated to a maximum depth of 1 foot because of the future possibility of this area being accessed by utility crews.

Removal excavation activities usually proceeded form the rear of the property to the front and was excavated to the required depths. If the ACM extended beyond the area depicted in the site sketch, the IT foreman, along with representatives of the USACE and EPA, would assess the site and determine if the additional ACM would should be removed. Upon completion of removal excavation activities, the START contractor was notified in order to perform a visual inspection and to collect post-excavation soil samples.

8.3.2 Abatement Contractor Monitoring

IT provided a foreman to provide oversight for each removal abatement crew. A daily QA site removal report was completed for each site. Record information included the following; site address and tracking number, date of removal activities, work completed, amount of ACM removed, foreman's site observations, and summary of owner comments. The START contractor also provided periodic removal oversight which included written and photographic documentation of site activities.

8.4 TRANSPORTATION AND DISPOSAL

IT's subcontractor, B & S Construction Company in Marraro, Louisiana, provide disposal transportation trucks for the WBA removal project. The transportation trucks utilized were lined with two layers of poly-liner prior to loading. After loading the truck, the poly-liner would be sealed and covered with the trucks tarp before transporting for off-site disposal. All ACM removed from the WBA sites was disposed in the Jefferson Parish Landfill located at 5800 Highway 90 West in Avondale, Louisiana.. A state-issued ADVF was required for each truck that transported ACM to the landfill. Multiple ADVFs were issued to sites that required more than one truck to transport ACM to the landfill.

The Jefferson Parish Landfill is an LDEQ-approved asbestos disposal facility and met the EPA Comprehensive Response, Compensation, and Liability Act (CERCLA) Off-Site Disposal Policy. During the removal project, the ACM waste was placed in a designated site within the working cell of the landfill and covered with non-ACM waste. All landfill activities were documented in accordance with LDEQ regulations. An estimated 52,210 cubic yards of ACM

were disposed in the Jefferson Parish Landfill.

8.5 RESTORATION

After removal excavation activities were completed, the site was scheduled for restoration. Each site was restored according to the agreement made with the property owner. Prior to site restoration, a post-removal video was taken to document the condition of each site. The EPA OSC developed a guideline to assist in the determination of appropriate restoration material for each site. This determination was dependent upon the functional area in which the ACM was to be removed.

Driveway areas containing ACM were excavated and restored with either limestone or concrete. If the ACM that existed prior to removal was in good condition, the property owner may have been eligible for the driveway area to be replaced with concrete. This decision was made, with the concurrence of the EPA, prior to the initiation of removal activities. The driveways that were restored with concrete were poured at a depth of 6 inches with 3,000 pounds per square inch (psi) grade concrete.

Driveway areas that did not meet the restoration criteria for concrete were restored with limestone. Grey or brown limestone was utilized for restoration. Brown limestone was used in the early stages of the project, however, as the project progressed, complaints pertaining to the appearance of the brown limestone prompted the decision to use grey limestone for the remainder of the project. The limestone was placed to obtain a final thickness of 6 inches within the driveway areas. The material was graded and compacted using conventional grading equipment. The final grade of all replacement material was carefully constructed so as to direct surface run-off away from building structures and to avoid pooling of any water.

Site walkways were restored in a similar manner as the driveways, with either limestone or concrete. Limestone walkways were restored at a depth of 6 inches and concrete walkways were restored at a depth of 4 inches. Drainage patterns were carefully considered when restoring walkway areas.

In yard areas where ACM was removed, the area was restored with sand and grass sod. The sand was placed in 6-inch lifts and compacted to prevent future settlement. The final lift was also compacted and left approximately 2 inches below the pre-excavation grade to allow for the thickness of the sod. Care was taken during the final grading to allow for proper drainage and to prevent pooling of water. In instances where pooling did occur, the area was regraded to alleviate the problem. At the few larger sites excavated, hydroseeding of the area was performed after backfill in lieu of sod.

9.0 DOCUMENTATION OF REMOVAL ACTIVITIES

Detailed documentation was conducted on all removal and restoration activities preformed at the WBA site. The following documentation items were collected for each property in which removal activities were completed:

- Field Data Sheets;
- Site Sketch;
- Consent for Access Agreement;
- Restoration Notice-to-Proceed;
- Analytical Data;
- Under-House Survey;
- Daily QA Removal Reports;
- Truck Tracking Forms;
- Weigh Tickets;
- AAC-2 Forms and ADVFs;
- Removal/Restoration Surveys and Quantitities; and
- Pre-Excavation, Post-Excavation, and Post-Restoration Video Documentation.

Each site has a separate file which contains all of the information related to removal activities performed at that site. The START contractor was responsible for managing all the documentation and data associated with the first six items noted above. IT was responsible for managing all the documentation and data associated with the final six items. Forms and documents used to prepare these files is provided as Attachment C. All original site files, including all video documentation, were provided under separate cover and are being retained by the EPA Region 6 RPB.

Westbank Abestos Site
LAD985170711

(R)

ATTACHMENT ADDED BY OSC

Newspaper Clippings